



QD-QA-018
REVISION E

EFFECTIVE DATE: September 24, 2004

ORGANIZATIONAL INSTRUCTION

REVIEW OF WORK AUTHORIZING DOCUMENTS

OPR(s)

QD10, QD20, QD30, and
QD40

OPR DESIGNEE

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Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 2 of 7

DOCUMENT HISTORY LOG

Status (Baseline/ Revision/ Canceled)	Document Revision	Effective Date	Description
Baseline		10/29/97	
Revision	A	6/9/99	C/W NCR 266 Corrective Action
Revision	B	9/22/99	Changes made to reflect new organization code changes and/or changes made to reflect new directives renumbering scheme and to incorporate the corrective action for closure of NCR 266. In addition, Appendix A (Acknowledgment Sheet) was removed and associated changes made to sections 7, 8, and 10.
Revision	C	9/09/02	Format and numbering change to implement requirements of QS-A-001 rev F.
Revision	D	10/20/03	Update OI numbering in 2., 4.1, and 4.1.2 (n). Update definitions in 3. Major re-write to simplify instructions in 4. through 4.2.1. Add 4.2.2. Delete 4.3, which is covered by QS-QA-003.
Revision	E	09/24/04	Update to Times New Roman 12. Revise per HQ Rules Review Action (CAITS: 04-DA01-0387). Reverse purpose and scope. In paragraph 1.3 add Mission Support Contractor to applicability. Change QS to QD. Add QARC to definitions. In paragraph 4.1.2 (h) clarify where requirement to record variables data comes from. In 4.2.2 (i) add "remove from flight inventory" as a possible disposition of un-installed hardware. Change Quality Records to Records in paragraph 8.

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Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 3 of 7

REVIEW OF WORK AUTHORIZING DOCUMENTS (WAD'S)

1. SCOPE

1.1 Purpose. To standardize the practice of reviewing WAD's for the inclusion of inspection points and quality controls.

1.2 Scope. This instruction provides direction for performing the review of WAD's.

1.3 Applicability. This procedure is applicable to all Safety and Mission Assurance (S&MA) and Mission Support Contractor inspection personnel.

2. APPLICABLE DOCUMENTS

MWI 8730.1	Equipment Logs/Records
QD-QA-001	Acceptance Reporting Instruction
QD-QA-015	Special Process Audits

3. DEFINITIONS

TPS – Test Preparation Sheet (MSFC FORM 248)
ICMS – Integrated Configuration Management System
EO – Engineering Order
FEO – Floor Engineering Order
EPL- Engineering Parts List
FEPL – Floor Engineering Parts List
QARC – Quality Assurance Records Center

4. INSTRUCTIONS

WAD's/TPS's shall be reviewed as necessary to assure:

- a. Proper inspection points/methods are identified.
- b. Configuration is properly recorded.
- c. Engineering drawing requirements are incorporated in WAD/TPS. Drawing errors are identified to the designer.
- d. Traceability requirements are identified.

Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 4 of 7

e. Verifications are met.

4.1 Work Order Reviews. Periodic reviews of the Fabrication Services contractor shall be conducted using this instruction and QD-QA-015. Work Order reviews may be accomplished in two phases: (1) initial review (at first inspection point, normally the layout inspection), and (2) final review (after completion of all WAD operations).

4.1.1 Initial Review. The reviewer shall verify/perform the following:

a. Contractor Quality Review if required. Layout inspection denotes latest configuration for all parts to be used. Quantities and part numbers match the EPL and/or EO's.

b. WAD package includes applicable documentation, i.e., drawings, EO's, EPL's, FEO's, FEPL's, waivers/deviations/ DR's, procedures, special handling requirements or ESD labeling, etc.

c. WAD identifies the drawing requirements/identified work to be accomplished at a later date (identified as -900 with itemized list plus or minus). Ensure manufacturing steps are clearly written and reflect drawing requirements. Manufacturing process and Quality process procedures are referenced. Verify work order methodization addresses find numbers and drawing notes.

d. Adequate contractor and NASA inspection points are defined. Project specific variable attributes requested to be recorded are methodized.

e. Drawings are approved and released and are the latest configuration per the applicable project code and effectivity. Any identified drawing, EPL, or EO errors are identified to the designer.

f. Provide planner comments of WAD review for correction/incorporation immediately.

g. For an acceptable WAD package, write "reviewed" and affix stamp and date to the header section of page one of the WAD.

4.1.2 Final Review. This review shall be performed after all WAD operations are complete and the parts tag has been initiated. The reviewer shall verify/perform the following:

a. Ensure the configuration of the part number for which the order is written is consistent throughout the order.

b. Ensure that traceability requirements (i.e., serial number, lot number, trace number, part tag numbers, etc.) are complied with and recorded.

c. Ensure the applicable project code and vehicle effectivity is recorded on all installed parts tags.

Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 5 of 7

- d. Ensure the WAD lists, and includes, all applicable engineering drawings, specifications, discrepancy reports (copies), engineering orders (EO's), and procedures used during the manufacture, processing, testing, and inspection of the component or assembly. Also, verify incorporation of the latest revision of these drawings and documents.
- e. Verify that all manufacturing and test operations have been signed/stamped/dated.
- f. Verify that designated mandatory NASA and/or contractor inspection points have been stamped/dated.
- g. Ensure that workmanship and special process data sheets used during the manufacturing operations are included.
- h. Verify recording of variable data for manufacturing and inspection operations as specified by the WAD or process procedures.
- i. Ensure compliance with handling, storage, and packaging requirements of the item (i.e. cleanliness level or ESD).
- j. Ensure that part tag numbers for all subassemblies and/or components required to fabricate the item are listed and that traceability requirements have been met (i.e. serial numbers recorded and cross referenced to the reference designators).
- k. Ensure that all EO's and EPL's and latest drawing revisions are incorporated in the WAD for both the major item and its components by contacting the release desk or searching the ICMS database.
- l. Ensure that installation parts tags have been completed for submission to QARC.
- m. If deficiencies are noted during the review, contact the cognizant engineer/planner/inspection group for resolution.
- n. Ensure completion of a parts tag for the completed item in accordance with QD-QA-001 and record inspection operations consistent with drawing requirements and work order operations.
- o. Ensure initiation of a Logbook in compliance with MWI 8730.1 when required by drawing.
- p. Upon completion of work order final review, stamp/date the work order final inspection operation and stamp/date block 35 of the end item parts tag.

4.2 Review of TPS for Fabrication and Assembly Operations not performed by the Fabrication Services Contractor. S&MA inspection personnel are responsible for initial and final review. For

Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 6 of 7

electronic TPS systems the signature, stamp, and date shall be affixed electronically and password protected.

4.2.1 Initial Review. The reviewer shall verify the following:

- a. Verify the steps are clearly written and reflect drawing requirements. Verify approval signatures per developing department OI approval requirements. Annotate NASA QA MIP's at the applicable operation. Note: Inspection personnel may witness or monitor all steps of a TPS and buy off the entire TPS.
- b. Verify that the TPS package contains the required documents (approved drawings, parts tags for previously accepted hardware when applicable, deviations/waivers, EOs, EPLs, etc.), for the specific operations.
- c. When required by project traceability requirements, verify the TPS contains layout inspection steps for parts and materials to be used.
- d. Verify special handling or cleanliness requirements are addressed. Verify a place is designated to record calibrated tool or test equipment information. Verify any –900 operations are identified.
- e. Verify a place to record variable attributes when specified by the project requirements.
- f. Upon review of the TPS, sign and date in the approval signature block or enter approval in the electronic TPS system.

4.2.2 Final TPS Review. The reviewer shall verify the following:

- a. All steps initialed and dated by performing personnel.
- b. All steps witnessed by NASA QA stamped and dated.
- c. All MIP steps stamped and dated by NASA QA.
- d. Calibrated tools/equipment recorded on TPS.
- e. Installation parts tags completed for QARC submission.
- f. End item parts tags completed per QD-QA-001.
- g. Logbooks required by drawing initiated per MWI 8730.1.
- h. Applicable Squawks and DR's recorded on the TPS.

Organizational Instruction		
Title: Review of Work Authorizing Documents	QD-QA-018	Revision: E
	Date: September 24, 2004	Page: 7 of 7

i. Parts tags generated for disassembled hardware requiring traceability and identification control after removal. Removed parts previously accepted as part of an assembly shall be split to an individual parts tag unless being re-installed on the same TPS or being removed from flight inventory. Verify –900 configuration shortages/overages are listed on the applicable parts tags.

j. All FEO's/FEPL's verified to the released EO/EPL prior to TPS and part tag closure.

k. Upon completion of the TPS final review, sign/stamp/date the final acceptance block on each page of the TPS or enter approval into the electronic TPS system.

5. NOTES

5.1 OI Replacement. This instruction replaces QS-QA-018, Revision D, Review of Work Authorizing Documents, dated 10/20/03.

6. SAFETY PRECAUTIONS AND WARNING NOTES

None.

7. APPENDICES, DATA, REPORTS, AND FORMS

None.

8. RECORDS

None.

9. TOOLS, EQUIPMENT, AND MATERIALS

None.

10. PERSONNEL TRAINING AND CERTIFICATION

None.

11. FLOW DIAGRAM

None.